

The transformation of public space: Mobile technology practices and urban liminalities

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### **Certificate of original authorship**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree as part of the collaborative doctoral degree and/or fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Date: 24.10.2017

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## Preface

This PhD research began in 2011 at a time when I owned the Apple iPhone 3G, a mobile computing device that by this time was already obsolete. As this infers, I was late to the iPhone trend, and have also been a reluctant adopter of several technology-driven trends of the previous decade, including having staunchly refused to join Facebook, LinkedIn, and only reluctantly creating Twitter and Instagram accounts initially as part of my teaching commitments and research. Nonetheless, the rapid and intense popularity of personal, portable, mobile computing, and new media activities, as well as the behavioural, social, and cultural practices they engender has intrigued me. Despite such issues being regularly discussed in the context of paradigmatic change in and for the built environment, they remain peripheral concerns for many of the built environment disciplines, and particularly in my home discipline of architecture.

These observations led to teaching in several research-led architectural design studios. An early focus explored the opportunities for applying emerging digital technologies in public transport environments as documented in two book publications *Infostructure: A transport research project* (Gardner et al. 2010) and *Interchanging: Future designs for responsive transport environments* (Gardner et al. 2014). More recently, this has extended to the design and coordination of the Bachelor of Computational Design subjects such as *Ubiquitous Cities* in which built environment design approaches are brought together with interaction design technologies and thinking, which is outlined in the recent paper “SMLXL: Thinking between scales and designing with data for ‘smarter’ cities” (Gardner and Hespanhol 2016). Accordingly, this research explores how disciplinary approaches and conceptual frameworks have informed various technourban imaginaries including those that occlude mobile technology practices and those that centralise and thus elevate them.

Exploring contemporary mobile digital technology as part of a research project has been challenging not only with respect to the wide range of disciplines that now attend to this topic, and thus the large volume of research produced, but moreover in the ways that mobile technologies and their associated practices have, and continue to, rapidly evolve. Equally, the scholarly publication cycle that connects to various themes around mobile technologies is fast-paced and prolific, providing the additional challenge of managing

ever-more *potentially* relevant information, theories, and perspectives. Significantly, the condition of digital information-overload is also a condition of everyday life. Somewhat ironically, but following the capitalist mode of creative destruction,<sup>1</sup> digital information-overload that—in part—has been driven by the technological affordances of Web 2.0 and a shift towards a so-called participatory culture, breeds ever more demand for ways to filter, aggregate, and synthesise vast quantities of information. As Kim Arlington has recently reflected “[W]e use our smartphones to use our smartphones less, installing apps that monitor and limit our activity” (2016, p.20). In ways similar to this, the nature of researching and the shape of the research itself has become subject to the very conditions I explore.

During the course of this PhD I have had time away from this research to have our first baby. Since returning I have had to give consideration to a number of newly published works that attend to matters of mobile technology practices in relation to urban public space and spatial theorisation, such as Katherine Willis’ book *Netspaces: Space and place in a networked world* (2016), but also the edited publication *Architecture and Interaction: Human Computer Interaction in Space and Place* (Dalton et al. 2016) that, in ways similar to this thesis, addresses the significance of actual and potential overlaps of the built environment traditions and Human Computer Interaction (HCI). Equally, it has been necessary to take account of recent and relevant events connected to mobile technology practices in urban public space, such as the *Pokémon Go* phenomena. In this regard the theoretical approach of this thesis and the philosophically-orientated questions it asks have proved somewhat resilient to the changing nature of contemporary technology.

In 2017 as this thesis comes to a conclusion, the iPhone is now at release 7+ and will celebrate its 10-year anniversary.<sup>2</sup> I am still—but only just—using an iPhone 5, but I know that ultimately resistance to an upgrade is futile.

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<sup>1</sup> The concept of ‘creative destruction’ describes the essential force of capitalism as one of continuous change, where recurrent economic cycles “...incessantly revolutionise the economic structure from within, incessantly destroying the old one, incessantly creating a new one” (Schumpeter quoted in Zukin 1991, p.4).

<sup>2</sup> <https://www.theguardian.com/commentisfree/2016/nov/27/2007-not-2016-year-world-turned-upside-down-rapid-technological-change>

## Table of Contents

<b>Abstract.....</b>	<b>iv</b>
<b>List of Figures.....</b>	<b>vi</b>
<b>List of Abbreviations .....</b>	<b>viii</b>
<b>Chapter 1: Introduction .....</b>	<b>1</b>
1.1 Research problem context: From ICTs to mobile technology practices .....	2
1.2 Research problem context: Disciplinary perspectives.....	6
1.3 Research problem context: Thinking technology .....	8
1.4 Research problem context: Digital culture and its discontents .....	9
1.5 Research problem context: Mobile technology practices and the ‘smart city’ .....	13
1.6 Research Questions.....	16
1.7 Methodology: Interdisciplinarity as working between .....	16
1.8 Thesis scope and limitations .....	18
1.9 Thesis impact.....	19
1.10 Chapter outlines.....	20
<b>Chapter 2: Liminal Theoretical Frameworks.....</b>	<b>22</b>
2.1 Thinking through liminality .....	23
2.2 Liminal origins .....	27
2.3 First-order liminality: A universal theory.....	28
2.4 Second-order Liminality: Turnerian anti-structure .....	33
2.5 Third-order Liminality: Turnerian modernisation.....	35
2.6 Fourth-order Liminality: Critical spaces .....	40
2.7 Discussion .....	52
<b>Chapter 3: Defining public spaces .....</b>	<b>55</b>
3.1 Thinking publicness for a post-electric age.....	56
3.2 Public/private distinctions.....	60

3.3	The socio-political conceptualisation of public space .....	62
3.4	The postmodern crisis of public space .....	65
3.5	Public space nostalgia.....	67
3.6	Public enemies.....	72
3.7	Consumerism, privatisation, and securitisation .....	75
3.8	Public, private, and other spaces.....	79
3.9	Post-public space.....	81
<b>Chapter 4: Technologies of space/spaces of technology .....</b>		<b>88</b>
4.1	Urban life, but not as we know it: sociotechnical perspectives.....	89
4.2	The philosophy of technology .....	92
4.3	Disciplinary limits: the technologies of space and the spaces of technology .....	99
4.4	A ‘digital-turn’: changes in public consciousness and design practice.....	106
4.5	Digital culture: from Internet Studies to mobile media .....	108
4.6	A critical philosophy of technology .....	109
4.7	Technological embodiment: liminal spaces of interaction .....	111
<b>Chapter 5: Mobile technology practices.....</b>		<b>119</b>
5.1	Technology and space: the visible and the invisible .....	120
5.2	Great Expectations: technological visions .....	125
5.3	From technologies of movement, to mobilised technologies .....	128
5.4	Mobilising computing.....	131
5.5	Mobilising communication: incursions and transformations.....	132
5.5.1	Encountering .....	134
5.5.2	Negotiating.....	140
5.5.3	Appropriation.....	141
5.6	The everyday .....	145
5.7	Mobile Technology Practices .....	149
5.8	Encountering, negotiating, appropriating, and transforming? .....	151



<b>Chapter 6: Mobilising Meanings.....</b>	<b>153</b>
6.1 Mobilising information.....	154
6.2 From anywhere to somewhere: Location-awareness .....	156
6.3 Location-awareness and smart-er places.....	158
6.4 From location-aware to location-focused .....	161
6.5 Mobilising information: Taking it to the streets .....	163
6.6 Location-based services, games, and media .....	165
6.7 Mobilising history: mobile interpretive projects .....	169
6.8 Mobilising expectations: The future is yours to locate.....	180
<b>Chapter 7: Mobilising space .....</b>	<b>187</b>
7.1 The problem of space.....	188
7.2 Of other and hybrid spaces.....	192
7.3 Spaces that flow and network thinking .....	196
7.4 Relational space .....	198
7.5 Hertzian spaces and landscapes .....	200
7.6 The automatic production of space, and code/space .....	202
7.7 Mediaspace, augmented space, and monitored space .....	204
7.8 Hybrid spaces and mobile computing interfaces .....	205
7.9 From spaces to places .....	210
7.10 Mobilised space .....	212
7.11 Mobilising transformation .....	216
<b>Chapter 8: Conclusion .....</b>	<b>219</b>
8.1 The when-ness of transformation.....	224
8.2 Limits and future research .....	237
8.3 Urban liminalities .....	239
<b>References.....</b>	<b>242</b>
<b>Appendix A: Publications .....</b>	<b>291</b>

## **Abstract**

Since the mid-twentieth century, various architectural, urban, cultural, and computer science discourses have advanced the rhetoric that contemporary information and communications technologies (ICTs) will fundamentally transform the built and urban environment. More recently, communications and media studies, as well as computer science allied fields such as human computer interaction (HCI) and interaction design have directed significant attention to the urban contexts in which mobile information and communications technologies (mICT) are used, and on the so-called transformative practices of mobile ‘location-awareness’. These diverse fields, that simultaneously attend to the topics of urbanism, space, and technology, bring alternate perspectives, methods, and theories to bear on the notion of urban transformation. Yet equally, they also contribute to a growing body of discourse that situates mobile technology practices as a force of radical and positive urban transformation. This thesis argues that understanding and representing the impacts of mobile technology practices on the aesthetic, symbolic, and lived experience of urban public space is a contestable territory subject to a range of technical, socio-economic, and cultural variables that are difficult to account for from any singular disciplinary perspective.

Accordingly, this thesis adopts an interdisciplinary method that examines the selected discourse through the lens of liminal theory initially developed by anthropologist Victor Turner from observations of tribal ritual ( 1967, 1974a, 1974b, 1977a, 1977b, 1982, 1985)—a theory that has much to say on the concepts and processes of transformation. This constructs a unique critique of claims that mobile technology practices have transformed urban public space by unpacking and examining a number of underlying assumptions and ideals that connect to key conceptual frameworks as well as disciplinary biases. From this perspective, this thesis argues that while mobile technology practices have influenced urban conditions—in both a positive and negative sense—from social practices, and workplace organisation, to ways of moving, they can be alternately conceptualised as liminal triggers that invoke ambivalent representations of urban public space over its radical transformation.

The discourse examined in this thesis points to a significant investment in research that attends to the interrelationships between emerging digital technologies and the built

environment in the social, cultural, and computer sciences, whereas limited engagement from the architectural discipline. As a contribution to interdisciplinary thinking the value of this thesis to the architectural discipline lies in its presentation and critique of these alternate disciplinary perspectives that have ‘made visible’ the often-abstract impacts of mobile technology practices on and within urban public space. With an eye to the current technourban imaginary and policy vehicle of the smart city, this thesis contends that from this more informed position the architectural discipline can offer much-needed critique on the relationships between emerging technologies and the built environment. The corollary of engaging and adapting a liminal theoretical gaze here is the problematisation of liminal space itself, and a further contribution to its history and methodological range.

## List of Figures

All figures by author unless otherwise indicated.

<b>Figure 1.0</b>	Canaletto (Italy, b.1667, d.1768) <i>The Piazza San Marco, Venice</i> 1742-1746 Oil on canvas, 67.5 x 119cm Art Gallery of New South Wales Gift of James Fairfax AC 1996 Photo: AGNSW 302.1996	p.121
<b>Figure 2.0</b>	The Piazza San Marco, ‘selfie’ takers, Venice (2014).	p.122
<b>Figure 3.0</b>	‘Head’s down’ mobile technology practices, Hyde Park, Sydney.	p.135
<b>Figure 4.0</b>	Visualisation of a dedicated texting lane.	p.138
<b>Figure 5.0</b>	Pavement warning lights, Augsburg, Germany, Belgium. Source: swa/Thomas Hosemann <a href="https://www.sw-augsburg.de/ueber_uns/4551_9148.php">https://www.sw-augsburg.de/ueber_uns/4551_9148.php</a>	p.138
<b>Figure 6.0</b>	Pilot project for smartphone warning signs, Seoul, South Korea. Source: Seoul Metropolitan Government <a href="http://english.seoul.go.kr/new-traffic-signs-smartphone-users/">http://english.seoul.go.kr/new-traffic-signs-smartphone-users/</a>	p.139
<b>Figure 7.0</b>	Public health warnings for smartphone users, Bangkok, Thailand (2016).	p.139
<b>Figure 8.0</b>	Mobile technology practices, Darling Quarter, Sydney.	p.142
<b>Figure 9.0</b>	Mobile technology practices, Martin Place, Sydney.	p.144
<b>Figure 10.0</b>	Mobile technology practices creating privacy bubbles in the State Library of New South Wales, Sydney.	p.145
<b>Figure 11.0</b>	Examples of location-aware mobile interpretive apps.	p.169
<b>Figure 12.0</b>	Figure 12.0 The Corner of George St and Hay St, Sydney, no known date, between 1900-1909. Source: PHM Flickr commons archive, public domain.	p.172
<b>Figure 13.0</b>	The corner of George St and Hay St, Sydney, 2013.	p.172
<b>Figure 14.0</b>	A blended overlay of Figure 12.0 and Figure 13.0.	p.173
<b>Figure 15.0</b>	<i>Razorhurst</i> players in costume, October 2011 at the Republic 2 Courtyard, Palmer Street, Darlinghurst. Source: Richard Fox.	p.176
<b>Figure 16.0</b>	Playing <i>Razorhurst</i> attempting to slay virtual assailants at the corner of Palmer Street and Liverpool Street, Darlinghurst with the former Tradesman’s Arms Hotel in the background.	p.177
<b>Figure 17.1</b>	The AR experience and personalised ways of seeing, ‘Ancient’, image 1 of 4. Source: Student project by Branko Cosic and Ryan Johann.	p.182
<b>Figure 17.2</b>	The AR experience and personalised ways of seeing, ‘Apocalyptic’, image 2 of 4. Source: Student project by Branko Cosic and Ryan Johann.	p.183

- Figure 17.3** The AR experience and personalised ways of seeing, 'The Future', image 3 of 4. p.183  
Source: Student project by Branko Cosic and Ryan Johann.
- Figure 17.4** The AR experience and personalised ways of seeing, 'Pokémon', image 4 of 4. p.184  
Source: Student project by Branko Cosic and Ryan Johann.

## **List of Abbreviations**

ABS – Australia Bureau of Statistics

Apps – mobile smart device software applications (i.e. for smartphone, tablet, iPad)

AR – Augmented Reality

CNU – Charter for New Urbanism

HCI – Human computer interaction

ICTs – Information communications technologies

mICTs – Mobile information communications technologies

LBG – Location-based game

LBS – Location-based service

LBSN – Location-based social networking

PHM – Powerhouse Museum

RFID – Radio-frequency identification

SCOT - Social construction of technology

STS – Science and technology studies

Ubicomp – Ubiquitous computing

VR – Virtual reality